

PATENT

Atty. Docket No. 30874.64-US-U1

WHAT IS CLAIMED IS:

1           1.       A method of cleaning a media surface comprising:  
2                subjecting the surface to a detector for sensing the nature of the surface for  
3                an irregularity in the smoothness of the surface;  
4                directing, on detecting an irregularity beyond a predetermined amount, a  
5                burnishing laser output to that irregularity; and  
6                energizing the laser to thereby impart an energy source to reduce the  
7                irregularity to a degree less than a predetermined amount.

1           2.       A method as claimed in claim 1 wherein the laser output is from a  
2                pulse laser.

1           3.       A method as claimed in claim 1 wherein a burnishing process is  
2                effected to thereby reduce, preferably remove, the irregularities and minimize  
3                residue on the disc surface.

1           4.       A method as claimed in claim 1 including varying the power of the  
2                laser output for effecting reduction of the irregularity.

1           5.       A method as claimed in claim 1 including measuring the irregularity  
2                and determining the time and power necessary to effect burnishing for reduction of  
3                the irregularity.

1           6.       A method as claimed in claim 5 including feeding back  
2                measurements of the irregularity as an output to thereby regulate the laser power so  
3                that the irregularity is effectively reduced to a predetermined amount.

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1 7. A method as claimed in claim 1 wherein the media surface is a rigid  
2 disc surface.

1 8. An apparatus for cleaning a media surface comprising:  
2 a detector for sensing the nature of the surface for an irregularity in the  
3 smoothness of the surface;  
4 a burnishing laser for direction to that irregularity on detecting an  
5 irregularity beyond a predetermined amount; and  
6 means for energizing the laser to thereby impart an energy source to reduce  
7 the irregularity to a degree less than a predetermined amount.

1 9. Apparatus as claimed in claim 8 wherein the laser output is from a  
2 pulse laser.

1 10. Apparatus as claimed in claim 8 including means for varying the  
2 power of the laser output for effecting reduction of the irregularity.

1 11. Apparatus as claimed in claim 8 including means for measuring the  
2 irregularity and means for determining the time and power necessary to effect  
3 burnishing for reduction of the irregularity.

1 12. Apparatus as claimed in claim 11 including means for feeding back  
2 measurements of the irregularity as an output to thereby regulate the laser power so  
3 that the irregularity is effectively reduced to a predetermined amount.

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1           13.    An apparatus for cleaning a media surface comprising:  
2           a detector for sensing the nature of the surface for an irregularity in the  
3 smoothness of the surface, wherein the detector includes a laser focusing apparatus;  
4           a burnishing laser for direction to that irregularity on detecting an  
5 irregularity beyond a predetermined amount; and  
6           means for energizing the laser to thereby impart an energy source to reduce  
7 the irregularity to a degree less than a predetermined amount.

1           14.    An apparatus as claimed in claim 13, wherein the laser focusing  
2 apparatus comprises an optical fiber, a mirror and a lens, wherein the optical fiber,  
3 the mirror and the lens are aligned such that the energy source is focused to the  
4 media surface.

1           15.    A glide head coupled to an actuator arm of a glide/burnish media  
2 tester for detecting asperities and defects in a media surface and for removing the  
3 asperities and defects from the media surface, the glide head comprising:  
4           a body having a leading end;  
5           an optical fiber, wherein the optical fiber extends from an energy  
6 source adjacent the actuator arm to the leading end of the body, the optical fiber  
7 being configured to conduct an energy from the energy source;  
8           a mirror disposed on the leading end of the body, wherein the mirror  
9 is configured to reflect the energy from the energy source onto the surface of the  
10 media; and  
11           a lens disposed adjacent the mirror, wherein the lens is aligned with  
12 the mirror and the optical fiber such that the energy from the energy source is  
13 focused through the lens onto the media surface.

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